APPENDIX 8
PROBLEM IDENTIFICATION/SOCIOECONOMIC PROFILE

YAZOO BACKWATER AREA REFORMULATION

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SECTION 1 - PROBLEM IDENTIFICATION

INTRODUCTION

1. The objective of this socioeconomic base study is to identify socioeconomic impacts within the project-impacted area and to present an overview of the social as well as the economic environment as a result of flooding within the Yazoo Backwater Area, Mississippi. Historical and existing (base) conditions for the Yazoo Backwater economic base study area are reflected through a brief discussion of the flood history and previous flood control efforts and available natural, human, and economic resources.

2. Economic and demographic data for the following characteristics are among the parameters significant to economic development of the Yazoo Backwater Area: population, housing, labor force, employment, earnings, income, farm characteristics, industry, business, and finance. Based on OBERS projections, future economic conditions within the Yazoo Backwater Area are expressed by projections of population, employment, and income. These values should be accepted only as indicators of the direction and relative magnitude of economic activity that may be expected during the next 50 years--not as precise projections. All monetary values in this study document have been converted to constant 1982 dollar equivalent values for comparative purposes.

3. The term "economic base study area" will be utilized in this report to denote Sharkey and Issaquena Counties, Mississippi, the area that appropriately reflects the economic problems, needs, conditions, and opportunities indicative of the entire Yazoo Backwater Area. The term "project area" is defined as the area directly affected by the construction of water resources improvement plans; also, the area encompassed by the 100-year frequency flood elevation delineation from existing/base or without-project conditions. Data contained in this appendix for the economic base study area will be labeled study area, unless otherwise stated. The terms "economic base study area" and "study area" will be used synonymously throughout this appendix.

4. "Urban" areas, defined by the Bureau of Census as communities with populations of 2,500 persons or more, do not exist in the project-impacted area. Therefore, populated "cluster" areas in the project area will be referred to as "built-up" areas. For this study, the built-up areas include Valley Park, Eagle Lake, Cary, and Holly Bluff, and portions of Mayersville, Rolling Fork, Anguilla, Belzoni, and Hollandale, Mississippi, areas within the 100-year frequency flood elevation delineation of the Yazoo Backwater Area. For purposes of this study, all residences, commercial buildings, and other structures located within the built-up areas are identified and separated from residences, commercial buildings, and other structures located outside the built-up areas referred to as rural areas.

5. Flood control features of the completed Yazoo Backwater Levee Project have provided varying levels of flood protection to the project area. Additional protection for some areas has been provided by local levee and drainage systems and by the Natural Resources Conservation Service projects. However, with the complex drainage system in the Lower Yazoo Basin, large areas continue to be plagued by flooding problems, creating substantial losses to agricultural and nonagricultural development.

PROBLEMS

6. Major problems resulting from frequent flooding include (a) flood damage to built-up and rural property, agricultural crops, agricultural noncrop items, and public roads and bridges; (b) a reluctance of farm operators to apply improved production inputs and techniques due to flood risk; and (c) flooding resulting from concentration of runoff from upstream areas combined with inadequacy of the existing water removal system to reduce floods from the delta area.

7. The total area subject to flooding by the 100-year frequency flood event is 630,000 acres (Plate 4-29). Approximately 57 percent of the total area inundated consists of cleared lands, 37 percent is woodlands, and 6 percent is water. During the 1943-1997 study period, the maximum number of flooded acres occurred in the spring of 1973. Built-up areas affected by major floods include unprotected or low-lying areas at Eagle Lake, Cary, Holly Bluff, Rolling Fork, and other built-up areas throughout the project area.

8. Approximately 499,000 acres are inundated on an average annual basis in the project area for base (without-project) conditions. Approximately 46 percent of this flooded area (231,000 average annual acres) are cleared cropland acres, with 84 percent of the average annual cleared acres flooded below the 2-year frequency flood event elevation.

9. Flood records indicate that the majority of the floods occur in the spring planting and summer growing months (January-June). Average flood duration varies from one day in Reach 1 to as many as 213 days, also in Reach 1. Frequency of occurrence varied from 0.4 times annually in Reach 1 to 8 times annually, also in Reach 1. The historical flood record entailed a 55-year period (1943-1997).

10. Development subject to flooding within the project area consists of both agricultural and nonagricultural types. Nonagricultural development affected by flooding includes commercial, professional, industrial, public, semipublic, recreational, and warehouse structures within portions of the four built-up areas and residences, commercial structures, etc., in the rural portion of the project area. In the built-up areas, 121 residences, 19 nonresidential structures, and other developments are subject to flooding from a 100-year frequency flood event. This compares with 1,135 residential structures and 280 nonresidential structures in the rural sectors subject to 100-year frequency event flooding. Substantial amounts of emergency costs are incurred by area residents, businesses, and others due to flood-fighting activities, evacuation expenses, cleanup operations, and other measures in combating flooding situations. In addition, various public roads and bridges, streets, private automobiles, and other amenities in the project area receive damages from flooding. Agricultural development affected by flooding includes crops produced on area farms (cotton, soybeans, rice, wheat, grain sorghum, etc.), noncrop farm development (farm drainage ditches, farm roads, land leveling, land forming, fences, farm supplies, etc.), and development associated with catfish farming operations.

ENVIRONMENTAL CONCERNS

11. Preservation of the hunting, fishing, and other natural values within the project area is a major concern. Scattered small woodlands tracts and a few large wooded areas remain. Preservation of these woodlands is one of the most significant concerns in the project area. The remaining woodlands and lakes, both natural and manmade, are necessary for overall environmental balance. Therefore, any project construction must consider the interrelated needs of flood control fish and wildlife and other environmental factors. The proposed recommended plan would add significantly to the environment of the project area. The addition of 62,500 acres of woodlands in the area would provide a number of environmental enhancements.

NEEDS

12. The flood problems in the Yazoo Backwater project area defined above reflect a definite need for the alleviation or reduction of flooding. Flood protection, whether full or partial, would benefit all sectors within the project area, thereby contributing to the total well-being of area residents and facilitating improvements to the national, regional, and local economies. There is also a need expressed by many groups for enhancement of the environment of the study area. At this time, there is not a clear consensus of how best to meet the needs of the south Delta.

SECTION 2 - SOCIOECONOMIC PROFILE

STUDY OBJECTIVE

13. The objective of this economic base study is to provide an updated, objective analysis of the relevant past and present economic conditions and develop a baseline of future economic

conditions for the Yazoo Backwater project area in west-central Mississippi. The purpose of this study is to provide a socioeconomic framework for the formulation and economic evaluation of proposed water resources improvements to the project area. It is part of the overall study related to identifying problems, determining needs, formulating alternative improvement plans, and evaluating these plans in accordance with environmental quality, social well-being, and regional and national economic development.

14. In the comprehensive planning process, a consistent data base of socioeconomic growth and development parameters is essential. Economic and demographic data for the following characteristics are among the parameters examined for their historical significance to the Yazoo Backwater study area: population, housing, labor force, employment, earnings, income, farm characteristics, industry, business, and finance. Data are presented to furnish an analysis of the past, present, and projected future economic development based on historical growth patterns. These values should be accepted only as indicators of the general direction and relative magnitude of economic activity that may be expected during the next 50 years--not as precise projections.

15. All data in this report, unless otherwise noted, were obtained from the Economic Impact Forecast System (EIFS), a computer-based system of standard economic, demographic, and forecasting models and data. EIFS, developed by Environmental Technology Information System for the U.S. Army Corps of Engineers, is utilized in developing socioeconomic data profiles and conducting economic impact assessment studies. Data on this system are retrieved from a variety of Federal sources, including the Bureau of the Census, Bureau of Labor Statistics, and Bureau of Economic Analysis (BEA). Data unavailable from EIFS were extracted from the County and City Data Book, Mississippi Statistical Abstract, Census of Population and Housing, Census of Agriculture, Mississippi Manufactures Directory, and the Economic Base Study, Yazoo River Basin, Mississippi, 1977. All monetary values were converted to 1982 constant dollars based on the latest available data from the Survey of Current Business.

SECTION 3 - GENERAL INFORMATION

ECONOMIC BASE STUDY AREA

16. The economic base study area (the study area), displayed on Plate 4-2, comprises Sharkey and Issaquena Counties which are located completely or primarily within the hydrological boundaries of the Yazoo Backwater Watershed and are considered to be economically representative of the project area. These counties cover approximately 841 square miles in total land area. No urban areas are located within the study area (see discussion on page 8-2). Significant population clusters within the two counties are being referred to as "built-up" areas throughout the report.

PROJECT AREA

17. The Yazoo Backwater project area, delineated on Plate 4-1, is the area affected by the construction of water resources improvement plans. The hydrologic backwater-impacted area, presented on Plate 4-4, was divided into four reaches to facilitate the evaluation of flood damages and benefits from the Yazoo Backwater project area. This predominantly agricultural area is part of the rich, deltaic region in west-central Mississippi containing fertile alluvial soil, and the cultivated area constitutes one of the more productive areas in the United States.

18. The Yazoo Backwater project area covers portions of seven counties in the Yazoo Basin--Humphreys, Issaquena, Sharkey, Warren, Washington, and Yazoo in Mississippi and Madison Parish in Louisiana. The area affected by this project is essentially all of the lower Yazoo Backwater delta area and covers a drainage area of approximately 4,093 square miles.

PROBLEMS

19. Flooding and inadequate drainage are the principal problems prevalent in the Yazoo Backwater project area which result in significant agricultural, rural, and related flood damages. Flooding affects approximately 359,000 acres of cleared land at the 100-year frequency flood event in the project-impacted area. In addition, 121 residences, 19 nonresidential structures, and other related developments are subject to flooding in the built-up areas; 1,135 rural residences and 280 nonresidential structures are affected in the rural areas. Extensive related developments such as public roads, bridges, utilities, and other improvements are also impacted by flooding.

DESCRIPTION

LOCATION

20. The Yazoo Backwater project area (Plate 4-1) is located in the lower half of the Yazoo River Basin in west-central Mississippi. The Yazoo River Basin consists of the entire drainage area of the Yazoo River and is part of the Lower Mississippi Valley region extending from the confluence of the Ohio and Mississippi Rivers to the Gulf of Mexico. The western boundary of the Yazoo River Basin is formed by the east bank of the Mississippi River levee from Memphis, Tennessee, to the vicinity of Vicksburg, Mississippi. At this point, the boundary becomes the east top bank of the Mississippi River. The western boundary of the project area is located approximately 2 miles east of the Mississippi River and measures from approximately 15 to 40 miles wide. This band of land extends from approximately 10 miles north of Vicksburg to approximately 10 miles southeast of Greenville, Mississippi.

PHYSIOGRAPHY

21. The project area is characterized by Yazoo alluvium bottom lands with Yazoo uplands to the south and east of the project area. The Yazoo alluvium, or "delta" area, is in the alluvial valley of the Mississippi River. The topography is characterized by low elevation flatlands that range from approximately 80 to 120 feet, National Geodetic Vertical Datum (NGVD). Delta soils are extremely rich in vegetative supplemental nutrients and are highly productive.

22. The lower Yazoo River Basin, as a small representative segment of the lower Mississippi River flood plain, encompasses some of the most productive soils on earth. However, the project area is located within the lower reach of the Mississippi River Valley, which is subject to inundation during periods of high water in this area. The valley was formed during the early Pleistocene epoch, or glacial period, a time when the Mississippi River became deeply incised in the coastal plains area. In the ages that followed, the valley was gradually filled with alluvium deposited by the river. The deposition of sand, silt, and gravel continued through the Pleistocene epoch and into the recent Holocene epoch. Beneath these Quaternary layers are marine and nonmarine deposits of unconsolidated sand, clay, gravel, silt, marl, and limestone created during the Jurassic, Cretaceous, and Tertiary periods. These extremely rich and highly productive delta soils have three characteristics that distinguish the area as most desirable for intensive cropland use--the nearly level slope enhances erosion control under current and projected mechanized farming methods; these soils are favorably supplied with plant nutrients; and these soils are highly retentive in moisture availability to plants.

CLIMATE

23. The climate in the Yazoo Backwater base study area is generally mild--summers are long, hot, and humid, and winters are short and moderate. During winter months, the prevailing wind is from the north or northwest. In other seasons, winds are from the south and southwest. The average annual temperature is 64 degrees F. Observed temperature extremes in the area range from -16 degrees F to 115 degrees F. The normal annual precipitation is 52 inches. The heaviest rainfall occurs most frequently during the months of December to April, while minimum rainfall occurs normally in September and October. Severe rainfall, producing locally intense runoff, can occur at any time of the year. The average length of the frost-free growing season is slightly over 7 months. Snowfall occurs approximately once each year, with an average annual amount of 2 inches.

HISTORY

24. The earliest known inhabitants of the Yazoo Basin were prehistoric American Indians, who lived at least 10,000 years before Hernando de Soto and his Spanish soldiers arrived in search of gold in 1540 in the area currently known as Mississippi. Little factual information is actually known of their earliest occupation, but these Indians left considerable evidence in village sites and burial mounds scattered throughout the project area. The first groups of white settlers, particularly Spanish and French explorers, had much influence on the tribes, spreading diseases that drastically decimated the Indian population. By the time the first European colonists arrived in the 1700's, the mound builders had practically vanished. The colonists discovered three principal tribes-- Choctaw, Chickasaw, and Natchez--and many tribes of lesser size and significance. By the 1830's, most of the tribes had been removed from the State, although a remnant of the Choctaw tribe currently lives in the Neshoba County, Mississippi, area. The

Indians released their lands in the Treaty of Pontotoc in 1832. This ceded much of the State of Mississippi to the U.S. Government. Settlers entered into the Mississippi Delta primarily from Virginia, South Carolina, Kentucky, and Tennessee in what has been called "the Great Migration."

25. The history of the Yazoo River Basin and Mississippi Delta corresponds to the history of the State of Mississippi since most of the growth of the State was primarily centered around the communities along the Mississippi River. The alluvial delta, with the Mississippi River to the west and the bluff hills to the east, is punctuated with history. Indian mounds are located along the river--ritual domes which served as lookout towers and retreats from advancing floods for those who arrived after the Indian occupation. A few old plantation mansions remain, serving as reminders of life in the recent past.

26. Agriculture, primarily cotton, was the principal economic base for the Mississippi Delta during the early 1800's. Land clearing began to occur at a very rapid rate following the arrival of the increased demand for high quality cotton and the steamboat adaptation for river transportation. This advancing cotton economy, as a result of fertile soil, and the availability of water transportation, supported the development of the unique Southern plantation system, with its fine homes, aristocratic social culture, and extensive slave holdings. In many instances, plantation owners maintained residences in the hills to the east to avoid the malarial epidemics often occurring in the overflow areas of the Delta. The Civil War brought an end to the South's plantation aristocracy, but a legacy of antebellum tradition and homesites remains.

MAJOR POPULATION CENTERS

27. As stated on page 8-2, no urban areas or towns (as defined by the Department of Commerce) exist in the project area. Issaquena and Sharkey Counties reported populations of 1,909 and 7,066, respectively, in 1990 and are utilized as the economic base study area (see paragraphs 3 and 4). Population statistics by county are displayed in Table 8-1 for the Yazoo Backwater study area.

TABLE 8-1
HISTORICAL POPULATION STATISTICS BY COUNTY
YAZOO BACKWATER ECONOMIC BASE STUDY AREA
(1940-1992)

County	Total Population Statistics by Year						
	1940	1950	1960	1970	1980	1990	1992
Issaquena	6,400	5,000	3,600	2,700	2,500	1,909	1,875
Sharkey	15,150	12,900	10,700	8,800	7,964	7,066	6,980
Subtotal: Study Area	21,550	17,900	14,300	11,500	10,464	8,975	8,855
State of Mississippi	2,183,796	2,178,914	2,178,141	2,216,994	2,520,638	2,626,627	2,615,208

SOURCE: EIFS, U.S. Department of Commerce, Bureau of Census.

SECTION 4 - EXISTING CONDITIONS

28. Existing conditions for the Yazoo Backwater project area are reflected in the following paragraphs through a brief discussion of the area's natural, human, and economic resources.

NATURAL RESOURCES

29. Highly productive agricultural lands, wildlife and fishery resources, forested area, lakes, streams, and wetland areas are the most valuable physical resources in the Yazoo Backwater project area. Other valuable area resources include stream tributaries, abandoned channels, oxbow lakes, back swamps, and natural levees. Agricultural lands, accounting for more than 64 percent of the base study area total land use, are the major natural resources.

LAND USE

30. Historically, favorable agricultural characteristics have been significant factors in the development of land use patterns in the Yazoo Backwater project area. Agricultural land accounted for approximately 57 percent of the project area total land mass in 1994, while built-up areas comprised less than 1 percent. Approximately 89 percent of the cleared land was utilized for row crops and 8 percent for other agriculture production. A small percentage of the area is devoted to catfish production. Soybeans and cotton are the major row crops in the project area. Other principal crops include wheat, rice, and corn. Historically, permanent pastureland has covered a relatively small portion of the project area.

31. Existing land use for the Yazoo Backwater project area was based on computerized satellite surveys of the U.S. Army Corps of Engineers (USACE) Geographic Information System (GIS) in 1994. Based on the acreage delineations from these surveys, the total Yazoo Backwater project area covers over 925,900 acres, or approximately 1,445 square miles, in the Yazoo River Basin. Existing acreages by rural and built-up designations are presented in Table 8-2 for the study area.

TABLE 8-2
BUILT-UP/RURAL USES
EXISTING (BASE CONDITIONS) LAND USE IN THE YAZOO BACKWATER PROJECT AREA
(1994)

Type of Use	Acreage a/	Percent of Use		Percent of Total Area
		Built-Up	Rural	
Cleared Lands b/	593,771	c/	70.0	70.0
Forest Lands	273,209	c/	23.0	23.0
Water Bodies	58,922	c/	7.0	7.0
Total Area d/	925,900	c/	100.0	100.0

SOURCE: USACE GIS, 1994.

a/ Acreage for the various categories of built-up land use was calculated utilizing distribution percentages derived from satellite imagery.

b/ Includes catfish ponds.

c/ Less than 1 percent.

d/ Includes built-up (communities, villages, etc.) areas.

32. Agricultural lands, accounting for 70 percent of the rural area, comprise the majority of the total land use with 594,000 acres. The remaining rural areas, including forest lands, water bodies, wetlands, and other lands, represent 30 percent of the rural areas and over 332,000 acres of the total land area.

WATER RESOURCES

33. A major natural resource of the Yazoo Backwater project area is the abundance of water. In addition to the Yazoo River main stem system and its tributaries, underground aquifers provide significant water supplies. Also, numerous streams, lakes, ponds, and wetland areas scattered throughout the area provide habitat for wildlife and opportunities for outdoor recreation as well as esthetic enhancement of the built-up areas.

34. Major streams in the study area include Steele Bayou and Deer Creek, Yazoo, Big Sunflower, and Little Sunflower Rivers. The stream system consists of 69 miles of Steele Bayou, 30 miles of the Little Sunflower River, the lower 60 miles of the Big Sunflower River, and the lower 120 miles of the Yazoo River. Most of the streamflow generated in the Yazoo Backwater project area originates from upper areas of the Delta, including Clarksdale, Marks, and Lambert areas. The principal alluvial valley streams are the Big Sunflower and Yazoo Rivers.

FORESTRY RESOURCES

35. Approximately 23 percent of the land area in the Yazoo Backwater project area is forest land and consists primarily of bottom-land hardwoods, mostly the oak-gum-cypress type. Bottom-land hardwood areas support above average populations of deer, turkey, small game, and nongame species.

36. Many acres of bottom-land hardwoods have been cleared in the last 50 years as a result of agricultural commodity prices increasing significantly, resulting in unprecedented agricultural expansion. However, some of the reduction can also be attributed to forestry production/harvest.

37. U.S. Department of Agriculture programs, including the Conservation Reserve Program (CRP), the Wetland Reserve Program (WRP), and others programs are contributing to at least some reversal in the clearing of woodlands and increasing the number of acres of woodland in the Yazoo Backwater Project Area.

MINERAL RESOURCES

38. Principal mineral resources in the study area include sand, gravel, and clay. Employment in the mining industry is very small in the Yazoo Backwater base study area, accounting for less than 1 percent of total nonagricultural employment.

39. Sand and gravel deposits, which are widespread throughout the Yazoo Backwater study area, rank at the top of the study area's most important mineral resources. Sand and gravel are used in construction as well as glass production and molding industries. Sand and gravel, along with clays, which are used in brick making, rank among the most important resources in the Yazoo Backwater study area. However, due to the emphasis placed on agricultural and forest production, clay is the most underutilized mineral resource within the study area.

HUMAN AND CULTURAL RESOURCES

40. An almost direct correlation exists between the number of persons residing in a specific area and the economic opportunities (especially economic and industrial activity) available in that area. Consequently, economic and industrial activity is used as an indicator of labor requirements and of local demands for community facilities and public services.

POPULATION

41. Historical population trends by county for the Yazoo Backwater study area and the State of Mississippi are presented in Table 8-1. Unlike the State, the population of the Yazoo Backwater study area has gradually declined over the last 50 years. The Yazoo Backwater study area share in the total population of the State decreased from 0.98 percent in 1950 to 0.34 percent in 1990.

42. Overall, the population of the Yazoo Backwater study area has decreased from 21,550 in 1940 to approximately 8,975 in 1990 or a 58 percent decline. The most significant occurrence was the loss of over 7,250 persons during the 1940 to 1960 period. Sharkey County experienced the majority of the loss, a decline of 8,084 persons from 1940 to 1990.

Density

43. The number of persons per square mile (population density) in the Yazoo Backwater study area has ranged from 25.5 persons per square mile of land area in 1940 to 10.5 persons in 1992 and is estimated to be 10.2 in 2000. This is in contrast to the State, with population density of 46.1 in 1940, projected to increase to 57.5 in 2000. Population density statistics for the Yazoo Backwater study area and the State of Mississippi are presented in Table 8-3.

TABLE 8-3
POPULATION DENSITY
YAZOO BACKWATER ECONOMIC BASE STUDY AREA
(1940-2000)

Area	1990 Land Area (sq mi)	Population Per Square Mile by Year						
		1940	1950	1960	1970	1980	1992 (Actual)	2000 (Estimated)
Issaquena County	413	15.5	12.1	9.0	7.0	6.2	5.0	4.3
Sharkey County	428	35.4	30.0	25.0	20.0	18.3	16.0	16.0
Total Yazoo Backwater Base Study Area	841	25.5	21.0	17.0	13.5	12.3	10.5	10.2
State of Mississippi	46,914	46.1	46.0	46.0	46.9	53.4	55.7	57.5

SOURCE: EIFS, U.S. Department of Commerce, Bureau of Census.

HOUSING

44. Data reported on housing units provide insight into significant social developments that influence the economic activity of an area. Analyses of housing characteristics for the Yazoo Backwater study area and for the State of Mississippi are presented in Table 8-4.

TABLE 8-4
TOTAL HOUSING STATISTICS
YAZOO BACKWATER ECONOMIC BASE STUDY AREA AND STATE OF MISSISSIPPI
(1950-1990)

Year	Total Housing Units		Persons Per Household (No.) a/	Median Rent ($) b/	Median Value ($) b/
	Year-Round (No.)	Occupied (No.)			
TOTAL YAZOO BACKWATER BASE STUDY AREA					
1950	5,506	4,521	4.0	c/	c/
1960	4,248	3,431	4.1	109.44	22,952
1970	3,319	3,003	3.8	121.21	20,077
1980	3,351	3,026	3.4	174.41	28,355
1990	2,988	1,703	3.2	218.00 d/	38,200 d/
STATE OF MISSISSIPPI					
1950	609,329	554,765	3.9	c/	c/
1960	628,945	568,070	3.8	131	24,000
1970	699,178	636,767	3.5	154	26,900
1980	911,627	827,169	3.0	208	36,300
1990	1,010,423	911,374	2.8	309 d/	45,600 d/

SOURCE: EIFS, U.S. Department of Commerce, Bureau of Census, County and City Data Book, years 1949-1992.

a/ Population (number of persons) divided by the number of households.

b/ Monetary values are presented in 1982 dollars.

c/ Not available.

d/ Represented in 1990 dollars.

45. Following the same trends as total population patterns of the area, housing in the Yazoo Backwater study area has been decreasing. Conversely, housing in the State of Mississippi increased. The number of permanent housing units in the Yazoo Backwater study area has decreased from 5,506 in 1950 to 2,988 in 1990, or approximately a 46 percent decline, while estimated total housing in the State increased to over 66 percent, from 609,329 units in 1950 to over 1,000,000 units in 1990.

46. The median 1990 value of housing, presented in 1990 price levels, was approximately $38,200 in the Yazoo Backwater study area as compared to $45,600 for the State of Mississippi.

Persons Per Household

47. The average number of persons per household in the Yazoo Backwater study area decreased from 4.0 in 1950 to 3.2 in 1990. This number parallels the trends for the State of Mississippi with an average number of persons per household of 3.9 in 1950, decreasing to an estimated 2.8 in 1990 (Table 8-4).

TRANSPORTATION

48. Almost the entire project area has excellent transportation access facilities. Access is provided by Federal, state, and local highways, railroads, aircraft, and waterways via the Yazoo River.

49. Transportation resources available through Greenville and Vicksburg provide access to the Yazoo Backwater study area from the north and the south. Greenville and Vicksburg are accessed by two state highways that traverse the Yazoo Backwater study area. Access by air is made possible by the Greenville Airport and the Vicksburg Airport.

Highways

50. Numerous highway systems traverse the Yazoo Backwater study area. U.S. Highway 61 dissects the area and provides two-lane, north-south access through Valley Park, Rolling Fork, and Hollandale, Mississippi. Mississippi Highway 12 provides two-lane, east-west, access through Belzoni and Hollandale. There are many other highways and state and county roads (primarily two-lane roads) which provide adequate access throughout the project area. U.S. Interstate 20 is located to the south of the project area, and U.S. Interstate 55 is located to the east of the area--both providing access to points throughout the United States and connections for access to neighboring countries.

Railroads

51. There are no major rail systems that provide access through the Yazoo Backwater project area. However, two major rail systems located outside the project area provide adequate rail transportation. The Columbus and Greenville Railroad, located to the north of the area, operates 232 miles of rail system from Columbus, Mississippi, to Greenville, Mississippi. The Illinois-Central Railroad, located to the east of the project area, operates 935 miles of rail service from Chicago, Illinois. It provides north-south access from Memphis, Tennessee, through Greenwood to Jackson, Mississippi.

Airport

52. The Yazoo Backwater study area contains many scattered small airport facilities providing local transport and agricultural crop-dusting services. These airport facilities are located in Belzoni, Hollandale, Nitta Yuma, Anguilla, and Onward, Mississippi.

Water Transportation

53. The Yazoo Backwater project area is accessible by water via the Yazoo River. The navigation channel from Greenwood to Vicksburg is 9 feet deep approximately 46 percent of the time. Terminal port facilities serving the Yazoo Backwater project area are located in Greenwood, Belzoni, and Yazoo City, Mississippi. These facilities provide barge transportation along the Yazoo River for industries in the area.

COMMUNICATION

54. The BellSouth telephone system, which provides the major telephone services to Mississippi, is divided into seven districts to better serve its customers. The Yazoo Backwater project area is served by the Greenville District of BellSouth. No television or radio broadcasting facilities are located within the study area. The Yazoo Backwater study area is served by television and radio stations located primarily in Greenwood, Greenville, Belzoni, Jackson, and Vicksburg, Mississippi, as well as other facilities.

UTILITIES

55. Utilities located in the Yazoo Backwater study area include electrical power, natural gas, and municipal/community water treatment and supply systems. Most of the major built-up areas in the base study area are served by both municipal wastewater treatment and water supply facilities.

Electricity and Gas

56. Mississippi Power and Light is the principal supplier and distributor of electrical power in the Yazoo Backwater project area with a major power generating facility on the Mississippi River at Vicksburg, Mississippi, and a nuclear power plant facility at Port Gibson, Mississippi. The largest electrical generating facility in the Yazoo Backwater project area, Grand Gulf nuclear power facility, is located in Port Gibson, approximately 50 miles south of the project area.

57. Most of the natural gas is handled by three major companies--Entex Gas, Inc.; Mississippi Valley Gas Company; and Union Gas Company. There are also municipal systems in charge of local distribution to customers.

58. The majority of the built-up areas in the Yazoo Backwater project area are served by both municipal wastewater treatment and central water supply facilities. All of the water supplied is extracted from ground-water sources.

ECONOMIC RESOURCES

59. In the analysis of the existing (base) economic conditions of the Yazoo Backwater study area, various economic parameters were identified as positive indicators reflecting economic growth in the study area. Existing (base) economic conditions are discussed in terms of labor force and employment, earnings and income, agricultural activity, and industrial and business activity. These parameters were selected based on their impact on the existing development and future direction of economic activity in the study area.

LABOR FORCE AND EMPLOYMENT

60. The labor force of an area is a subset of the total population. The labor force consists of the working-age population; i.e., those persons 16 years of age or older. Total labor force statistics for the Yazoo Backwater study area, including the civilian labor force, employment, and unemployment rates, are presented in Table 8-5.

Civilian Labor Force and Unemployment

61. The civilian labor force is defined as working-age population, who are not in the military and who are either employed or unemployed. The size of the civilian labor force in the Yazoo Backwater study area decreased from 3,980 in 1980 to 3,272 in 1990, reflecting a decline of approximately 18 percent (Table 8-5).

TABLE 8-5
LABOR FORCE STATISTICS
YAZOO BACKWATER ECONOMIC BASE STUDY AREA
(1980-1990)

Year	Civilian Labor Force				
	Total (No.)	Employment		Unemployment	
		Total (No.)	Rate (%)	Total No.)	Rate (%)
YAZOO BACKWATER ECONOMIC BASE STUDY AREA					
1980	3,980	3,530	88.7	450	11.3
1981	4,290	3,820	89.0	470	11.0
1982	a/	a/	a/	a/	a/
1983	4,290	3,550	82.8	740	17.2
1984	4,250	3,550	83.5	700	16.5
1985	a/	a/	a/	a/	a/
1986	3,880	2,930	75.5	950	24.5
1987	3,660	2,640	72.1	1,020	27.9
1988	3,194	2,566	80.3	628	19.7
1989	3,339	2,792	83.6	547	16.4
1990	3,272	2,799	85.5	473	14.5
STATE OF MISSISSIPPI					
1980	1,023,000	947,000	92.6	76,000	7.4
1981	1,052,000	964,000	91.6	88,000	8.4
1982	a/	a/	a/	a/	a/
1983	1,068,000	933,000	87.4	135,000	12.6
1984	1,074,000	958,000	89.2	116,000	10.8
1985	a/	a/	a/	a/	a/
1986	1,163,000	1,027,000	88.3	136,000	11.7
1987	1,152,000	1,035,000	89.8	117,000	10.2
1988	1,141,000	1,046,000	91.7	95,000	8.3
1989	1,166,000	1,076,000	92.3	90,000	7.7
1990	1,184,000	1,095,000	92.5	89,000	7.5

SOURCE: EIFS, Mississippi Employment Security Commission, Bureau of Census, Mississippi Statistical Abstract, 1978-1989.

a/ Not available.

62. The labor force has decreased in the study area, while unemployment numbers have increased. Unemployment in the Yazoo Backwater study area rose from 11.3 to 14.5 percent from 1980 to 1990. This compares unfavorably to unemployment rates approximating 7 percent for the State of Mississippi for both 1980 and 1990. Sharp unemployment increases have been explained as the primary result of reductions in the labor force instead of marked increases in unemployment. The highest unemployment rate in the Yazoo Backwater study area (27.9 percent) occurred in 1987. The lowest unemployment rate (11 percent) occurred in 1981.

Total Employment

63. Total employment represents the number of wage and salary employees and the number of proprietors in the Yazoo Backwater study area. Employment, paralleling the civilian labor force in the Yazoo Backwater study area, decreased from 3,530 to 2,799 from 1980 to 1990, reflecting an overall decline of approximately 21 percent. However, employment numbers for the study area remained primarily unchanged for the past 5 years.

Employment by Industry

64. Employment statistics for the Yazoo Backwater study area are presented in Table 8-6 by industrial sector and percent distribution to total employment. With minor fluctuation, percentages for each industry have remained primarily unchanged for the study area during the 1980 to 1990 period. County distribution of total 1990 employment by industry is displayed in Table 8-7.

65. Most of the industry in the area is agribusiness oriented. Previously, agriculturally related employment dominated the area; however, activities of nonagricultural industries currently constitute a major portion of the total economy. In 1990, three major industry groups accounted for almost one-half (46 percent) of the total employment in the Yazoo Backwater study area.

TABLE 8-6
TOTAL EMPLOYMENT BY INDUSTRIAL SECTOR
YAZOO BACKWATER ECONOMIC BASE STUDY AREA
(1969-1995)

Total Employment By Industry	Total Employment By Year										Projected	
	1969		1973		1978		1983		1990		1995	
	Total (No.)	Percent a/	Total (No.)	Percent a/	Total (No.)	Percent a/	Total (No.)	Percent a/	Total (No.)	Percent a/	Total (No.)	Percent a/
Total Employment b/	3,909	100	4,100	100	4,093	100	3,794	100	3,998	100	4,094	100
Industry												
Farm	1,922	49.2	1,867	45.5	1,590	38.8	1,253	33.0	1,168	29.2	1,111	27.1
Agricultural Services, Forestry, Fisheries	34	0.9	71	1.7	63	1.5	133	3.5	177	4.4	204	5.0
Mining	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Construction	16	0.4	63	1.5	78	1.9	96	2.5	174	4.4	187	4.6
Manufacturing	340	8.7	442	10.8	465	11.4	478	12.6	547	13.7	566	13.8
Transportation and Public Utilities	52	1.3	104	2.5	75	1.8	136	3.6	139	3.5	140	3.4
Wholesale Trade	26	0.7	28	0.7	0	0.0	134	3.5	164	4.1	178	4.3
Retail Trade	291	7.4	320	7.8	286	7.0	290	7.6	293	7.3	295	7.2
Finance, Insurance, and Real Estate	0	0.0	36	0.9	38	0.9	44	1.2	57	1.4	64	1.6
Services	427	10.9	419	10.2	548	13.4	528	13.9	722	18.1	803	19.6
Government	615	15.7	621	15.1	625	15.3	585	15.4	553	13.8	542	13.2
Federal, Civilian	96	2.5	71	1.7	67	1.6	61	1.6	60	1.5	60	1.5
Federal, Military	115	2.9	95	2.3	76	1.9	63	1.7	63	1.6	63	1.5
State and Local	404	10.3	455	11.1	482	11.8	461	12.2	430	10.8	419	10.2

SOURCE: EIFS, BEA.
NOTE: BEA and the Mississippi Employment Security Commission utilize different reporting periods; therefore, these statistics cannot be strictly compared.
a/ Percent of total employment.
b/ Totals may not add due to data not reported to avoid disclosure of confidential information.

TABLE 8-7
DISTRIBUTION OF TOTAL EMPLOYMENT BY INDUSTRY AND COUNTY
YAZOO BACKWATER ECONOMIC BASE STUDY AREA
(1990)

Total Employment By Industry	Total Employment Distribution by County				
	Issaquena		Sharkey		Total
	No.	%	No.	%	
Total Employment	772	19.3	3,226	80.7	3,998
Industry					
Farm	417	10.4	751	18.8	1,168
Agricultural Services, Forestry, Fisheries	77	1.9	100	2.5	177
Mining	4	0.1	0	0.0	4
Construction	39	1.0	135	3.4	174
Manufacturing	0	0.0	547	13.7	547
Transportation and Public Utilities	22	0.6	117	2.9	139
Wholesale Trade	38	1.0	126	3.2	164
Retail Trade	11	0.3	282	7.1	293
Finance, Insurance, and Real Estate	3	0.1	54	1.4	57
Services	90	2.3	632	15.8	722
Government	71	1.8	482	12.1	553

SOURCE: EIFS, BEA.

These groups include services (18 percent), government (14 percent), and manufacturing (14 percent). Agricultural employment comprised 34 percent of the total employment in 1990.

66. In the last decade, the farm sector accounted for the majority of the total employment in the Yazoo Backwater study area, with 49 percent in 1969 and 29 percent in 1990. Sharkey County represents the largest portion of farm employees in the study area, comprising 19 percent in 1990, while Issaquena County accounted for 10.4 percent.

67. Employment in the services sector comprises 18 percent of total employment, ranking second to farm employment. The number of employees in the services sector increased from 427 employees in 1969 to 722 in 1990 or 69 percent. Sharkey County comprised 16 percent of the employees in the services sector in 1990, while Issaquena County accounted for 2 percent.

68. Manufacturing accounted for 14 percent of the study area total employment in 1990. Within the study area, Sharkey County represented the entire manufacturing employment with 14 percent.

69. The government industry in the study area ranked second within the last decade in total employment. Recently, the services sector has taken over that ranking in the Yazoo Backwater study area. The government sector comprised 15.4 percent of total employment in 1983, decreasing to 13.8 percent in 1990. Sharkey County accounted for the majority of government employment within the study area with 12 percent in 1990.

EARNINGS AND INCOME

70. The economy of the Yazoo Backwater study area is explained in terms of earnings and income in the following paragraphs. The sum of wages and salary disbursements, other labor income such as commissions and tips, and proprietors income are classified as earnings. Income comprises earnings plus property income and government or business transfer payments. Total earnings by industry, expressed in 1982 dollars, are displayed in Table 8-8 for the study area.

Total Area Earnings

71. Although farming has been the major enterprise in the history of the Mississippi Delta, industry has become increasingly important to the economy of the Yazoo Backwater study area in the past several decades. As depicted in Table 8-8, manufacturing paralleled the farm industry in contributing almost 20 percent of the total earnings in the study area in 1990. Due to increased efforts toward mechanization and industrialization, manufacturing, trade, and services sectors have emerged as major contributors to the area economy, whereas earnings from agriculture have declined. Farm earnings comprised only 20 percent of the total earnings in 1990, as compared to 39 percent in 1978. Government and services comprised 14.7 and 15.4 percent, respectively, of total earnings in 1990.

72. The government sector has also contributed significantly to the area's economy. Prior to 1990, government represented the majority of total nonfarm earnings and a significant portion of total earnings. The government sector has comprised approximately 15 percent or more of the total earnings in the Yazoo Backwater study area since 1969.

TABLE 8-8
TOTAL EARNINGS BY INDUSTRIAL SECTOR a/
YAZOO BACKWATER ECONOMIC BASE STUDY AREA
(1969-1995)

Total Earnings By Industry	Total Earnings By Year										Projected	
	1969		1973		1978		1983		1990		1995	
	Total ($000)	Percent b/	Total ($000)	Percent b/	Total ($000)	Percent b/	Total ($000)	Percent b/	Total ($000)	Percent b/	Total ($000)	Percent b/
Total Earnings c/	33,511	100.0	36,932	100.0	46,520	100.0	35,179	100.0	48,943	100.0	53,970	100.0
Industry												
Farm	14,086	42.0	13,535	36.6	17,999	38.7	5,534	15.7	9,810	20.0	9,423	17.5
Agricultural Services, Forestry, Fisheries	345	1.0	925	2.5	715	1.5	1,368	3.9	1,880	3.8	2,242	4.2
Mining	d/	0.0	d/	0.0	0	0.0	0	0.0	124	0.3	135	0.2
Construction	186	0.6	450	1.2	726	1.6	963	2.7	2,391	4.9	2,822	5.2
Manufacturing	4,053	12.1	4,661	12.6	5,528	11.9	6,806	19.3	9,675	19.8	11,101	20.6
Transportation and Public Utilities	1,002	3.0	1,743	4.7	1,381	3.0	2,672	7.6	3,314	6.8	3,659	6.8
Wholesale Trade	328	1.0	430	1.2	0	0.0	2,083	5.9	2,961	6.0	3,387	6.3
Retail Trade	3,858	11.5	4,079	11.0	3,214	6.9	2,884	8.2	2,982	6.1	3,068	5.7
Finance, Insurance, and Real Estate	0	0.0	619	1.7	886	1.9	741	2.1	1,062	2.2	1,223	2.3
Services	2,015	6.0	2,907	7.9	4,355	9.4	4,762	13.5	7,560	15.4	9,356	17.3
Government	5,699	17.0	6,166	16.7	6,757	14.5	6,564	18.7	7,183	14.7	7,556	14.0
Federal, Civilian	1,400	4.2	1,229	3.3	1,195	2.6	1,143	3.2	1,332	2.7	1,432	2.7
Federal, Military	283	0.8	302	0.8	255	0.5	285	0.8	313	0.6	330	0.6
State and Local	4,017	12.0	4,635	12.6	5,308	11.4	5,136	14.6	5,539	11.3	5,794	10.7

SOURCE: EIFS, BEA.
a/ Earnings are presented in 1982 dollars.
b/ Percent of total employment.
c/ Totals may not add due to data not reported to avoid disclosure of confidential information.
d/ Not available.

Earnings by County

73. The distribution by county of total earnings by industrial sector are presented in Table 8-9 for 1990. Sharkey County contributes the largest portion to the study area economy in total earnings, comprising 85 percent of the total in 1990. Issaquena County comprised 15 percent of total earnings within the study area in 1990.

74. The majority of farm earnings can be attributed to Sharkey County, accounting for 13.2 percent of the total earnings in 1990. Sharkey County contributed 7 percent to total earnings in 1990.

75. Sharkey County represented the majority of government earnings in 1990 with 13.2 percent of total earnings. Issaquena County contributed 1.4 percent to total earnings in 1990.

76. Sharkey County has had the largest influence in the industrial and business growth of the Yazoo Backwater study area. Historically, Sharkey County has been the major contributor to the manufacturing, trade, and services economies and comprised the majority of 1990 earnings in those sectors with 20, 10.7, and 14.4 percent, respectively, of the total Yazoo Backwater study area. Issaquena County contributed less than 1, 1.5, and 1 percent, respectively, of manufacturing, trade, and services earnings in 1990.

TABLE 8-9
DISTRIBUTION OF TOTAL EARNINGS BY INDUSTRY AND COUNTY
YAZOO BACKWATER ECONOMIC BASE STUDY AREA
(1990)

Total Earnings By Industry	Total Earnings Distribution by County				
	Issaquena		Sharkey		Total ($000)
	($000)	%	($000)	%	
Total Earnings	7,376	15.1	41,568	84.9	48,944
Industry					
Farm	3,346	6.8	6,464	13.2	9,810
Agricultural Services, Forestry, Fisheries	662	1.4	1,218	2.5	1,880
Mining	124	0.3	0	0.0	124
Construction	589	1.2	1,803	3.7	2,392
Manufacturing	0	0.0	9,675	19.8	9,675
Transportation and Public Utilities	692	1.4	2,623	5.4	3,315
Wholesale Trade	574	1.2	2,387	4.9	2,961
Retail Trade	133	0.3	2,850	5.8	2,983
Finance, Insurance, and Real Estate	45	0.1	1,017	2.1	1,062
Services	507	1.0	7,052	14.4	7,559
Government	704	1.4	6,479	13.2	7,183

SOURCE: EIFS, BEA.

Personal Income and Per Capita Income (PCI)

77. Total personal income, the principal component of gross national product, is an excellent indicator of economic activity within an area. The total personal income of the Yazoo Backwater study area was estimated to be over $87 million in 1990, reflecting an increase of 94 percent from the 1969 income of $44.9 million. The personal income of the State of Mississippi in 1990 was estimated at $27 billion. Personal income statistics are depicted in Table 8-10 for the Yazoo Backwater study area and for the State of Mississippi.

78. PCI is a measure of the relative support the economy provides for the population of an area. During the 1969 to 1990 period, PCI in the study area increased from $3,772 to $8,228, an 118 percent increase. This is greater than the State's PCI growth of 72.3 percent, an increase from $5,775 in 1969 to 9,951 in 1990 (1982 dollars).

AGRICULTURAL ACTIVITY

79. Historically, agricultural resources have been important to the economy of the Yazoo Backwater study area. However, along with industrial expansion and the increased commercialization and mechanization of farms, farming operations have conformed to practices occurring elsewhere in the country, a trend toward fewer farms with larger acreages. The number of farms in the Yazoo Backwater study area has decreased significantly from 2,036 in 1954 to 234 in 1992, while the average size of farms has increased from 140 to 1,250 acres during the same period. Much of this increase can be attributed to rural and industrial expansion in the area. General farm characteristics are presented in Table 8-11 for the total study area.

TABLE 8-10
PERSONAL AND PCI a/
YAZOO BACKWATER ECONOMIC BASE STUDY AREA AND STATE OF MISSISSIPPI

Year	Total Personal Income		Total PCI	
	Total ($000)	Change b/ (%)	Total ($000)	Change b/ (%)
YAZOO BACKWATER ECONOMIC BASE STUDY AREA				
1969	44,907		3,772	
		20.6		31.7
1973	54,163		4,967	
		26.1		28.5
1978	68,324		6,384	
		-5.2		-5.3
1983	64,746		6,048	
		34.5		36.0
1990	87,089		8,228	
Total Change c/		93.9		118.1
STATE OF MISSISSIPPI				
1969	12,819,906		5,775	
		31.2		23.9
1973	16,820,018		7,158	
		18.5		11.9
1978	19,926,494		8,009	
		3.4		-0.4
1983	20,595,463		7,973	
		30.8		24.8
1990	26,948,493		9,951	
Total Change c/		110.2		72.3

SOURCE: EIFS, BEA.
a/ Income is presented in 1982 dollars.
b/ Change from previous year.
c/ Total change during 1969-1990 period.

TABLE 8-11
GENERAL FARM CHARACTERISTICS
YAZOO BACKWATER ECONOMIC BASE STUDY AREA
1954-1990

Year	Approximate Land Area			Total Number of Farms	Average Size of Farm (ac)
	Total County (ac)	Total in Farms (ac)	Proportion in Farms (%)		
1954	544,640	250,000	46.0	2,036	140
1959	544,000	253,812	46.6	695	386
1964	544,000	286,442	52.6	449	672
1969	544,000	297,155	54.6	419	689
1974	544,000	308,031	56.6	304	992
1978	538,240	330,574	61.4	321	1,007
1982	538,240	321,600	59.7	296	1,064
1987	538,240	298,982	55.5	234	1,266
1992	538,240	295,680	54.9	234	1,250

SOURCE: EIFS, Census of Agriculture, 1954-1992.

80. Agricultural land use is displayed by utilization category in Table 8-12 for the study base area. Cropland has been the major agricultural use category, comprising 91 percent of the total farmland in 1992. Harvested cropland historically accounted for 89 percent of the total cropland, with less than 7 percent of the total cropland fallow or idle. Historically, less than 1 percent of the total cropland was used for pastures from the period 1978 to 1992. Although land in farms has fluctuated since 1954, farmland has been on the increase over the analysis period. Land in farms comprised 250,000 acres in 1954 as compared to 296,000 in 1992 (Table 8-11).

Value of Agricultural Products Sold

81. Table 8-13 presents sales from agricultural products in the Yazoo Backwater study area--sales values that have fluctuated since 1954. The value of farm products sold was an estimated $36.9 million in 1954 (expressed in 1982 dollars), increasing to $58.4 million in 1964, then decreasing to $41.2 million in 1969. However, since that point, the value of farm products sold increased steadily, reaching $68.8 million by 1987. This represented an overall increase of 86 percent from 1954 to 1987. Sales from crops represented approximately 92 percent of the total value from agricultural products sold in 1987. This compares to 94 percent in 1982. Prior to 1982, crop sales represented 95 to 97 percent of total agricultural sales.

TABLE 8-12
AGRICULTURAL LAND USE BY YEAR
YAZOO BACKWATER ECONOMIC BASE STUDY AREA
(1978-1992)

Land Use Category	1978			1982			1987			1992		
	Total Acreage	Percentage		Total Acreage	Percentage		Total Acreage	Percentage		Total Acreage	Percentage	
		Land in Farms	Total Cropland		Land in Farms	Total Cropland		Land in Farms	Total Cropland		Land in Farms	Total Cropland
Total Land in Farms	330,574	100.0	--	321,600	100.0	--	298,982	100.0	--	295,680	100.0	--
Total Cropland	297,850	90.1	100.0	287,220	89.3	100.0	270,076	90.3	100.0	268,140	90.7	100.0
Harvested	285,646	86.4	95.9	274,305	35.3	95.5	218,485	73.1	80.9	242,299	81.9	90.4
Used for Pasture	762	0.2	0.3	1,886	0.6	0.7	190	0.1	0.1	N/A	N/A	N/A
Other Cropland a/	7,601	2.3	2.6	11,029	3.4	3.8	19,151	6.4	7.1	N/A	N/A	N/A
Total Wooded	18,225	5.5	--	13,461	4.2	--	11,387	3.8	--	9,500	3.2	--
Other Land	14,499	4.4	--	20,919	6.5	--	17,519	5.9	--	18,040	6.1	--

SOURCE: EIFS, Census of Agriculture, 1978-1992.
a/ Cover crops, failed crops, fallow, idle cropland, and other uses.

TABLE 8-13
TOTAL VALUE OF AGRICULTURAL PRODUCTS SOLD
YAZOO BACKWATER ECONOMIC BASE STUDY AREA

Year	Total Value of Farm Products Sold a/			
	Total Sales by County ($000)		Yazoo Backwater Total Area	
	Issaquena	Sharkey	Total Sales ($)	Change b/ (%)
1954	13,805	23,090	36,895	
				18.5
1959	16,433	27,305	43,738	
				33.5
1964	17,910	40,479	58,389	
				-29.4
1969	13,960	27,236	41,196	
				22.4
1974	16,302	34,109	50,411	
				20.7
1978	19,746	41,119	60,865	
				5.3
1982	19,183	44,894	64,077	
				7.4
1987	23,263	45,540	68,804	
				27.2
1992 c/	27,941	59,607	87,548	
			Total Change d/	86.5

SOURCE: EIFS, BEA; Census of Agriculture, 1954-1992.
a/ Sales are presented in 1982 dollars.
b/ Change from previous year.
c/ Presented in 1992 dollars.
d/ Total change during 1954-1987 period.

Principal Field Crops

82. Production statistics for the principal field crops reported in the Yazoo Backwater study area are presented in Table 8-14 by total harvested acreage, yield, and total production. The principal field crops reported were soybeans, cotton, wheat, rice, and corn. Soybeans have occupied the majority of the total harvested acreage, with 120,934 acres reported in 1992. Although soybeans are the major field crop, harvested soybean acreage allocated has decreased in the last 10 years, from 68 percent in 1982 to 52 percent in 1992. Cotton is second in rank, comprising 36 percent of the total harvested acreage in 1992 while rice and wheat represented 6.6 and 4.7 percent, respectively. Harvested acreage for corn has been less than 1 percent of the total harvested acreage for the period reported. Crop distribution percentages for the total harvested acres of all principal field crops reported are depicted in Table 8-14.

Catfish Production

83. The catfish industry has become a major factor in the economy of Mississippi. From 1967 to 1990, acreages increased significantly from approximately 13,000 to over 100,000 acres of food and bait fish. In 1990, total production of food fish processed was 360.4 million pounds, which was approximately 90 percent of the catfish processed in the United States. This production was valued at $362 million.

84. An estimated 33,000 acres of farm-raised catfish are located within the Yazoo Backwater study area. Based on a 5-year average price of $0.71 per pound and an output of 4,000 pounds per acre, the annual gross value of production of these ponds is $94 million. The catfish farming industry has become a dynamic growth industry in the area and is highly dependent upon demand. Although this presents difficulties in projecting future growth, the catfish industry is expected to continue to emerge as a major industry in the area.

TABLE 8-14
PRODUCTION STATISTICS FOR THE PRINCIPAL FIELD CROPS
YAZOO BACKWATER ECONOMIC BASE STUDY AREA
(1982-1992)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Year	Principal Field Crop														
	Soybeans			Cotton			Wheat			Rice			Corn		
	Total Harvested Acres	Yield Per Acre (bu)	Total Production (bu)	Total Harvested Acres	Yield Per Acre (lb)	Total Production a/ (bales)	Total Harvested Acres	Yield Per Acre (bu)	Total Production (bu)	Total Harvested Acres	Yield Per Acre (bu)	Total Production (cwt)	Total Harvested Acres	Yield Per Acre (bu)	Total Production (bu)
1982	204,117	25.01	5,104,441	46,066	872.66	83,750	43,612	41.36	1,803,903	8,286	101.04	376,754	b/	b/	b/
1987	143,789	23.97	3,447,892	48,620	983.83	99,654	16,570	34.72	575,368	9,223	116.23	482,416	b/	b/	b/
1992	120,934	34.83	4,211,812	82,680	855.32	147,329	10,996	40.25	442,610	15,188	126.24	862,801	2,021	108.25	218,770

A	Q	R	S	T	U	V
	Total Harvested Acreage, All Principal Field Crops Reported					
		Percent Distribution to Total by Crop				
1982	302,081	67.6	15.2	14.4	2.7	b/
1987	218,202	65.9	22.3	7.6	4.2	b/
1992	231,819	52.2	35.7	4.7	6.6	0.9

SOURCE: Mississippi Statistical Abstract, 1984-1992, U.S. Department of Agriculture Statistical Crop Reporting Service.
a/ Cotton production in 480 net weight bales.
b/ Not available.

INDUSTRY AND BUSINESS

85. The "sunbelt movement" of the 1970's helped stimulate the economy of the area, creating more industry and demand for products, thereby increasing employment. This era resulted in the emergence of the services, trade, and manufacturing sectors, representing 18, 11, and 14 percent, respectively, of the total employment for the area in 1990. These sectors, discussed in the following paragraphs, represent the economic indicators for industrial and business activity in the Yazoo Backwater study area. Table 8-15 includes the number of establishments and business sales volume for manufacturing retail and wholesale trade, and selected services. Although these values indicate a favorable business climate, agriculture remains the major source of economic growth in the Yazoo Backwater study area.

Manufacturing

86. Manufacturing activity, as displayed in Table 8-15 by the number of manufacturing establishments, has significantly contributed to the well-diversified industrial base in the Yazoo Backwater study area. In 1987, there were 10 manufacturing establishments located in the area, an increase of 4 from 1963.

87. The manufacturing industry ranks fourth in total employment percentages in the Yazoo Backwater study area, comprising 14 percent in 1990. However, manufacturing earnings, which have ranked third in total earnings in the area since 1969, comprised the majority of total earnings in 1983. The study area encompasses 19 percent of manufacturing earnings, ranking second in 1990 with 20 percent.

TABLE 8-15
BUSINESS VOLUME BY INDUSTRY a/
YAZOO BACKWATER ECONOMIC BASE STUDY AREA
(1963-1990)

Year	Manufacturing			Retail Trade			Wholesale Trade			Selected Services		
	No. of Establishments	Value Added ($000)	Change a/ (%)	No. of Establishments	Sales ($000)	Change a/ (%)	No. of Establishments	Sales ($000)	Change a/ (%)	No. of Establishments	Sales Receipts ($000)	Change a/ (%)
1963	6	d/		112	28,728		15	15,111		26	1,300	
			d/			-13.3			-46.4			14.2
1967	6	d/		85	24,907		14	8,096		35	1,484	
			d/			-24.0			183.6			1.7
1972	8	4,989		84	18,934		16	22,962		31	1,509	
			37.6			3.2			42.8			27.6
1977	8	6,863		77	19,538		18	32,796		36	1,925	
			25.3			-7.4			-39.6			45.5
1982	7	8,600		70	18,100		14	19,800		23	2,800	
			d/			-24.1			-24.1			-19.8
1987	10	d/		78	13,738		18	15,034		27	2,246	
	Total Change c/		72.4			-52.2			-0.5			72.8

SOURCE: EIFS, BEA; County and City Data Book, 1967-1994.
a/ Values are presented in 1982 dollars.
b/ Change from previous year.
c/ Total change during the 1954-1982 period although total change may not add due to data not reported to avoid disclosure of confidential information.
d/ Not available.

88. Value added by manufacture, the principal measure reflecting the value of industrial production of an area, has increased almost 73 percent, from $4.9 million in 1972 to $8.6 million in 1982 within the Yazoo Backwater study area. Value added is derived by subtracting the cost of materials and services from the value of shipments, thereby constituting a measure of the economic value of the manufacturing activity based on production.

89. Although manufacturing values have fluctuated, these values have experienced an overall increase throughout the Yazoo Backwater study area. Sharkey County represented the majority of the value added by manufacture, comprising approximately 95 percent for the past 25 years.

Retail and Wholesale Trade

90. Retail and wholesale trade represents the economic and business activity in the study area based on the sales volume of merchandise. Retail and wholesale trade accounted for 8 percent of the total employment in the Yazoo Backwater study area in 1973, increasing to 11 percent in 1990. Earnings from retail and wholesale trade in the study area comprised over $5.9 million in 1990, accounting for 12 percent of total earnings.

91. Retail sales, defined as the total value of merchandise sold plus receipts from repairs and other services to customers, steadily decreased in the study area from $28.7 million in 1963 to $13.7 million in 1987. A modest increase occurred in retail sales from a 1972 value of $18.9 million to $19.5 million in 1977. This decline in sales represented an overall decrease of 52 percent. The number of retail establishments has also decreased significantly, from 112 in 1963 to 78 in 1987, a 30 percent decline.

92. Wholesale trade is defined as the sale of merchandise by establishments with one or more paid employees primarily engaged in selling merchandise to retailers; institutional, industrial, commercial, and professional users; or other wholesalers; or in negotiating as agents in buying merchandise for or selling merchandise to such persons or companies. Wholesale sales increased from $15.1 million in 1963 to $32.8 million in 1977 prior to a steady decline to $15 million in 1987, an overall decrease of 0.7 percent. The number of wholesale establishments increased slightly for the period from 15 in 1963 to 18 in 1987. Issaquena County reflected a decline in the number of wholesale establishments, while Sharkey County compiled major increases.

Selected Services

93. Selected services, which represent service industries such as hotels and motels, repair services, and dental, medical, and legal services, are also indicators of business activity. Selected services in the Yazoo Backwater study area accounted for 14 and 18 percent of the total employment in 1983 and 1990, respectively, while earnings comprised 15 percent of total employment in 1990. Selected services represented 20 percent of the total nonfarm employment in 1990.

94. Based on the statistics in Table 8-15, sales receipts from selected services have steadily increased from $1.3 million in 1963 to $2.8 million in 1982, a 115 percent increase. The sales receipts declined to $2.2 million in 1987, a decrease of 21.4 percent. The number of establishments has fluctuated, increasing from 26 in 1963 to 36 in 1977, then dropping to 27 in 1987. Sharkey County was the major contributor, gaining one selected service establishment and experiencing a 72.8 percent increase in receipts from 1963 to 1987.

FINANCIAL STATISTICS

95. Financial statistics for local government and banking institutions are discussed in the following paragraphs, indicating the financial capabilities in the Yazoo Backwater study area.

Local Government Finance

96. The local government, which represented approximately 11 percent of the total employment and 11 percent of the total earnings in 1990, ranked third in total and nonfarm employment in the Yazoo Backwater study area in 1990.

97. Selected financial statistics for the local governments within the Yazoo Backwater study area are presented in Table 8-16. Total revenues were $9.5 million in 1987, while general expenditures totaled $9.3 million. The general debt outstanding in 1987 was not disclosed, but this element accounted for $2.6 million in 1982.

Banking Statistics

98. In 1992, five banks were located in the Yazoo Backwater study area. Four banks were located in Sharkey County, and one bank was located in Issaquena County. Banking statistics are presented in Table 8-17.

99. Total bank deposits, expressed in 1982 dollars, increased over 129 percent for the Yazoo Backwater study area from $15.3 million in 1964 to $35 million in 1986. Sharkey County accounted for over 95 percent of the total bank deposits, while Issaquena County comprised 5 percent.

TABLE 8-16
LOCAL GOVERNMENT FINANCE a/
YAZOO BACKWATER ECONOMIC BASE STUDY AREA
(1962-1987)

Year	Total Government Revenue					Total Direct General Expenditures ($000)	Change b/ (%)	General Debt Outstanding ($000)	Change b/ (%)
	Total ($000)	Change b/ (%)	Intergovernment Revenue ($000)	Taxes					
				Total ($000)	Property ($000)				
1962	5,593		2,991	1,784	1,640	6,113		6,063	
		19.6					4.8		1.1
1967	6,686		3,995	1,956	1,530	6,408		6,129	
		22.2					10.8		1.8
1972	8,174		5,162	2,151	1,852	7,098		6,238	
		6.8					11.7		-60.5
1977	8,729		6,278	1,701	1,545	7,932		2,465	
		3.1					9.7		5.5
1982	9,000		6,600	1,400	1,308	8,700		2,600	
		5.1					6.7		
1987	9,457		6,049	1,960	1,833	9,287		d/	
Total Change c/		69.1					51.9		-57.1 e/

SOURCE: EIFS, BEA; County and City Data Book, 1967-1994.
a/ Values are presented in 1982 dollars.
b/ Change from previous year.
c/ Total change during the 1972-1987 period.
d/ Not available.
e/ Total change during the 1962-1982 period.

TABLE 8-17
BANKING STATISTICS a/
YAZOO BACKWATER ECONOMIC BASE STUDY AREA

Year	Bank Deposits ($000)	Change b/ (%)
1964	15,265	
		28.3
1970	19,580	
		59.0
1976	31,142	
		5.2
1981	32,767	
		6.8
1986	35,000	
		33.7
1992 c/	46,800	
Total Change d/		129.3

SOURCE: EIFS, BEA; County and City Data Book, 1967-1994.
a/ Values are presented in 1982 dollars.
b/ Change from previous year.
c/ Values presented in 1992 dollars.
d/ Total change during the 1964-1986 period.

100. Other financial capabilities are ordinarily revealed through savings capital; however, savings capital for the Yazoo Backwater study area was not reported from 1964 to 1986.

SECTION 5 - FUTURE CONDITIONS

101. Sections 1 and 2 provide a profile of the historical past and present existing economic conditions in the Yazoo Backwater study area. In this section, projections will be discussed for major parameters, including population, employment, earnings and income, value of farm products sold, and industry and business. Methodology and projections utilized in this analysis were obtained from EIFS and the Small Area Forecasting System (SAFS). EIFS uses SAFS projection tools to disaggregate the large-area OBERS BEA regional projections into smaller component areas. These data were used to represent the expected future growth trends of the study area over the next 50 years. A socioeconomic profile summary is presented in Table 8-18 for historical (1980), existing (1992), and future conditions to the year 2050.

102. Not unlike many other projections, those presented in this report are conditional forecasts of the future based on extensions of past trends, adjusted as necessary to reflect the changing national, regional, and inter- and intraregional conditions. Projection methodologies are designed to provide reliability for short term; for periods beyond the year 2000, growth trends are extrapolations of conditions for national trends. Projections are based on long run or secular trends and are not affected by the cyclical fluctuations which characterize the short run path of the regional economy.

TABLE 8-18
SUMMARY OF SOCIOECONOMIC PROJECTIONS BY YEAR
YAZOO BACKWATER ECONOMIC BASE STUDY AREA
(1980-2050)

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Item	Historical a/	Current b/		Projections									
	1980	1992		2000		2005		2010		2015		2020	
	Total	Total	Change c/ (%)	Total	Change c/ (%)	Total	Change c/ (%)	Total	Change c/ (%)	Total	Change c/ (%)	Total	Change c/ (%)
Population (No.) e/	10,500	8,855	-15.7	8,648	-2.3	8,491	-1.8	8,334	-1.8	8,184	-1.8	8,033	-1.8
Employment (No.) e/	3,794	3,998	5.4	4,198	5.0	4,288	2.1	4,307	0.4	4,326	0.4	4,307	-0.4
Total Earnings (1982 million dollars) e/	35.2	48.9	38.9	59.3	21.3	64.2	8.3	69.1	7.6	73.5	6.4	77.9	6.0
Personal Income (1982 million dollars) e/	64.7	87.1	34.6	105	20.6	114.4	9.0	123.7	8.1	133.5	7.9	143.2	7.3
Per Capita Income (1982 dollars) e/	6,050	9,836	62.6	12,142	23.4	13,473	11.0	14,843	10.2	16,312	9.9	17,826	9.3
Value of Farm Products Sold (1982 million dollars) e/	64.1	68.8	7.3	69.0	0.2	68.8	-0.3	69.7	1.4	70.7	1.4	72.6	2.7
Value Added by Manufacturing (1982 million dollars) e/	8.6	12.2	41.9	15.6	27.9	17.2	10.2	18.5	7.6	19.8	7.0	21.1	6.6
Retail Sales (1982 million dollars) e/	18.1	13.7	-24.3	14.8	7.7	15.4	4.6	16.0	3.7	16.6	3.4	17.1	3.3
Wholesale Sales (1982 million dollars) e/	19.8	15.0	-24.1	15.7	4.5	17.7	12.9	19.4	9.4	21.0	8.2	22.5	7.3
Selected Services Receipts (1982 million dollars) e/	2.8	2.2	-19.8	2.5	11.3	2.9	16.4	3.3	13.1	3.6	9.4	3.9	9.0

TABLE 8-18 (Cont)

A	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
Item	Projections												Total Change from Current Year d/ (%)
	2025		2030		2035		2040		2045		2050		
	Total	Change c/ (%)	Total	Change c/ (%)	Total	Change c/ (%)	Total	Change c/ (%)	Total	Change c/ (%)	Total	Change c/ (%)	
Population (No.) e/	7,889	-1.8	7,744	-1.8	7,606	-1.8	7,468	-1.8	7,335	-1.8	7,203	-1.8	-18.7
Employment (No.) e/	4,288	-0.4	4,269	-0.4	4,250	-0.4	4,231	-0.4	4,212	-0.4	4,193	-0.5	4.9
Total Earnings (1982 million dollars) e/	82.3	5.6	86.7	5.3	88.9	2.5	91.1	2.5	91.1	0.0	91.1	0.0	86.3
Personal Income (1982 million dollars) e/	153	6.8	162.8	6.4	167.7	3.0	172.6	2.9	172.6	0.0	172.6	0.0	98.2
Per Capita Income (1982 dollars) e/	19,394	8.8	21,023	8.4	22,048	4.9	23,112	4.8	23,531	1.8	23,962	1.8	143.6
Value of Farm Products Sold (1982 million dollars) e/	74.5	2.6	76.4	2.6	78.3	2.5	80.2	2.4	82.1	2.4	84.0	2.3	22.1
Value Added by Manufacturing (1982 million dollars) e/	22.4	6.2	23.7	5.8	25.0	5.5	26.3	5.2	27.6	5.0	29.0	4.8	137.3
Retail Sales (1982 million dollars) e/	17.7	3.2	18.2	3.1	18.8	3.0	19.3	2.8	19.8	2.6	20.3	2.4	47.8
Wholesale Sales (1982 million dollars) e/	24.0	6.7	25.5	6.2	27.0	5.7	28.5	5.5	30.0	5.3	31.5	5.1	109.4
Selected Services Receipts (1982 million dollars) e/	4.3	8.7	4.6	8.4	5.0	8.1	5.4	7.8	5.8	7.5	6.2	7.2	176.5

SOURCE: EIFS, BEA, and Bureau of Census; 1987 Census of Agriculture; and County and City Data Book, 1988.

a/ Historical data are displayed as year 1980. Actual year as reported is as follows: 1980 for population; 1982 for agriculture, manufacturing, retail, and wholesale trade, and selected services; 1983 for earnings, employment, and income data.

b/ Current data are displayed as year 1992. Actual year as reported is as follows: 1992 for population; 1987 for agriculture, manufacturing, retail, wholesale trade, and selected services; and 1990 for employment and income data.

c/ Percentage change from previous year.

d/ Total percent change from current year (1992) to the year 2050.

e/ All change values are presented as percentages.

103. National assumptions on which the projections are based are as follows:

a. Reasonably full employment will prevail.

b. Technological progress and capital accumulation will continue the current long-term growth in private output.

c. The projection period will be free from the disrupting influence of wars, devastating epidemics, natural catastrophes, or shortage of vital natural resources.

d. Interregional migration will continue into the "sunbelt" states.

104. Regional assumptions applied in this study are as follows:

a. Trends toward industrialization and economic self-sufficiency will continue.

b. Regional earnings and PCI will continue to converge toward the national average.

c. Regional employment ratios will tend to move toward the national average.

d. Both natural and manmade transportation facilities will be available in the future, with the resulting locational advantages.

PROJECTIONS - ECONOMIC PARAMETERS

POPULATION

105. Population in the Yazoo Backwater study area is projected to decrease during the early years of the project life, then increase during the later portion of the project life, reflecting an overall increase of 12.9 percent over the 50-year expected economic life of the project.

EMPLOYMENT

106. Total employment in the Yazoo Backwater study area is projected to increase from 3,998 in 1992 to approximately 4,193 in 2050, an increase of almost 5 percent. The respective categories of farm, services, manufacturing, and government are expected to remain the leading employment sectors.

EARNINGS

107. Total earnings are projected to increase 86 percent from $48.9 million in 1990 to $91.1 million by 2050 (expressed in 1982 dollars). Manufacturing, farm, and services sector will continue to emerge as the leading earnings categories in the Yazoo Backwater study area.

INCOME

108. Total personal income projections reflect an increase from $87.1 million in 1992 to $172.6 million in 2050 or approximately 98 percent. Based on the population projections, this results in a PCI growth from $9,836 in 1992 to $23,962 by 2050, an increase of 143 percent. Income values are presented in 1982 dollars.

VALUE OF FARM PRODUCTS SOLD

109. The value of farm products sold is expected to increase approximately 22 percent from $68.8 million to $84 million from 1992 to 2050. As discussed in analyzing existing conditions, the economy in the Yazoo Backwater study area, although heavily influenced by the agricultural industry, is moving toward an industrial base.

INDUSTRY AND BUSINESS

Manufacturing

110. Value added by manufacturing projection reflects an increase of over 137 percent from $12.2 million in 1992 to $29 million in 2050. As presented in Table 8-18, projected value added by manufacture will increase over six times the amount projected to accrue from farm product sales.

Retail and Wholesale Trade

111. Retail sales are expected to increase approximately 48 percent from $13.7 million in 1992 to $20.3 million by 2050, while wholesale sales are projected to increase 110 percent from $15 million to $31.5 million during the same period. The trade sector, including retail and wholesale trade, is expected to rank fifth in employment in the study area.

Selected Services

112. Selected services are projected to increase over 176 percent from $2.2 million in 1992 to $6.2 million by 2050 in the study area. Selected services is expected to rank second in employment throughout the study period.

LAND USE PROJECTIONS

113. The existing land use patterns in the Yazoo Backwater project area, which are presented in Table 8-2, are anticipated to continue in future years. Agricultural production is expected to continue as a major economical resource and should not be greatly affected by industrialization. Housing is expected to remain constant as population remains virtually unchanged in the study area. Other land use; i.e., roads, miscellaneous uses, etc., is expected to maintain its present relationship to the total area.

RURAL LAND USE

114. Little change is expected in future rural land use within the project area. Agricultural land use is expected to remain constant, although some shifts will occur in usage, such as in crop distribution patterns, as well as reforestation resulting from the CRP and WRP programs. These programs have currently reached the limits of program participation for these counties. Local leaders must request that the limits be increased before any additional lands can be added. It is uncertain at this time whether this will occur.

BUILT-UP AREA LAND USE

115. Little net change is expected in future built-up area land use within the project area. Structures that deteriorate or are otherwise removed are expected to be replaced by other structures, such that the projected number of structures is unchanged. This lack of significant future change in the number of structures is expected for all of the built-up areas within the Yazoo Backwater project area.